

CONSTRUCTED FACILITY STATEMENT

Antenna

The applicant has installed a Dielectric model TLP-8F L eight bay directional antenna in place of the authorized Dielectric model TLP-16F L eight bay antenna in compliance with 47 CFR Section 73.1690. The authorized antenna would have required a complex tapered-leg mount which was not readily available, whereas the installed antenna is half the length and was installed on the straight section of the tower using the antenna manufacturer provided mounting.

The gain of the installed antenna is 14.59 dB while the authorized antenna's gain is 17.6 dB. The transmitter TPO has been adjusted to provide the authorized 47.6 kW ERP.

The eight bay antenna's center of radiation was installed at the authorized 10 meters above ground level and oriented at 25 degrees true. The installed antenna's horizontal radiation pattern is identical to the authorized 16 bay antenna. Both antennas have a one degree beam-tilt.

R.F. Hazard Compliance

The installed eight bay antenna's vertical radiation pattern differs from that of the authorized, but at 90 degrees is essentially the same. A plot of each antenna's vertical pattern is included with this exhibit.

The site, Jump Off Joe Butte, is located on an unpaved road 12.9 km South of Kennewick, WA. The transmitter is located in a locked building within an enclosed, secured fenced area with no access available to the general public. Signs advising possible radiation hazard are posted within and about the 6ft. chain link fenced area. Access to the fenced area and to the transmitter building is available only to authorized technical and maintenance personnel. Calculations performed as outlined in OST Bulletin No. 65 indicate that the RF exposure will be lower than the allowable limits for occupational / controlled exposure at ground level. Operations will cease, power will be reduced to a required level, or maintenance time will be limited in the area of high radiation if it is necessary for repairs or maintenance to be performed on the tower structure or if workers are required to be in proximity to areas of high RF exposure for extended periods of time.

Washington State University is the licensee and in control of both the existing NTSC and the DTV facilities at this site. Both facilities were considered while evaluating RF exposure levels.

Washington State University has published guidelines for all sites, which includes procedures that protect employees from high levels of radiation. All employees required to work in hazardous conditions are thoroughly trained in RF hazard prevention.



Date	28 Apr 2003	Channel	38
Call Letters	KTNW-DT		
Location	Richland, WA		
Customer	WSU		
Antenna Type	TLP-8F		

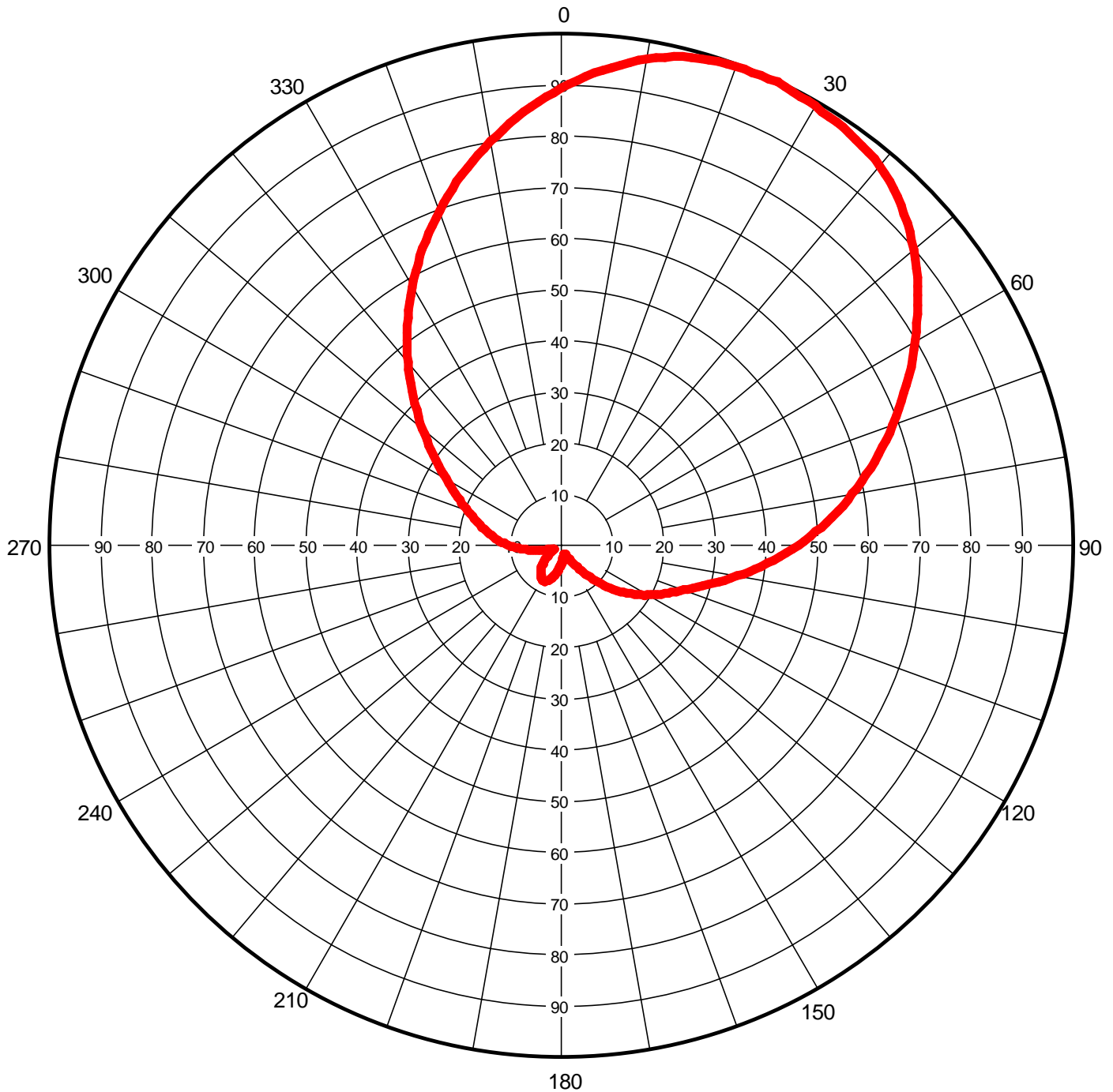
AZIMUTH PATTERN

Gain
Calculated / Measured

3.60 (5.56 dB)
Calculated

Frequency
Drawing #

617 MHz
TLP-F



Remarks:



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TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # TLP-F

Angle	Field	ERP (kW)	ERP (dBk)
0	0.893	38.0	15.79
10	0.965	44.3	16.47
20	0.996	47.2	16.74
30	0.991	46.7	16.70
40	0.968	44.6	16.49
50	0.899	38.5	15.85
60	0.798	30.3	14.82
70	0.690	22.7	13.55
80	0.578	15.9	12.01
90	0.463	10.2	10.09
100	0.348	5.8	7.61
110	0.255	3.1	4.91
120	0.195	1.8	2.58
130	0.133	0.8	-0.75
140	0.072	0.2	-6.08
150	0.033	0.1	-12.85
160	0.019	0.0	-17.65
170	0.023	0.0	-15.99
180	0.036	0.1	-12.10
190	0.054	0.1	-8.58
200	0.073	0.3	-5.96
210	0.077	0.3	-5.49
220	0.062	0.2	-7.38
230	0.039	0.1	-11.40
240	0.020	0.0	-17.20
250	0.021	0.0	-16.78
260	0.055	0.1	-8.42
270	0.104	0.5	-2.88
280	0.146	1.0	0.06
290	0.194	1.8	2.53
300	0.260	3.2	5.08
310	0.354	6.0	7.76
320	0.466	10.3	10.14
330	0.583	16.2	12.09
340	0.696	23.1	13.63
350	0.801	30.5	14.85

Maxima

Angle	Field	ERP (kW)	ERP (dBk)
25	1.000	47.6	16.78
207	0.078	0.3	-5.38

Minima

Angle	Field	ERP (kW)	ERP (dBk)
162	0.019	0.0	-17.65
245	0.017	0.0	-18.61

Remarks:



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Remarks:



Date
Call Letters
Location
Customer
Antenna Type

28 Apr 2003
KTNW-DT
Richland, WA
WSU
TLP-8F

Exhibit No.

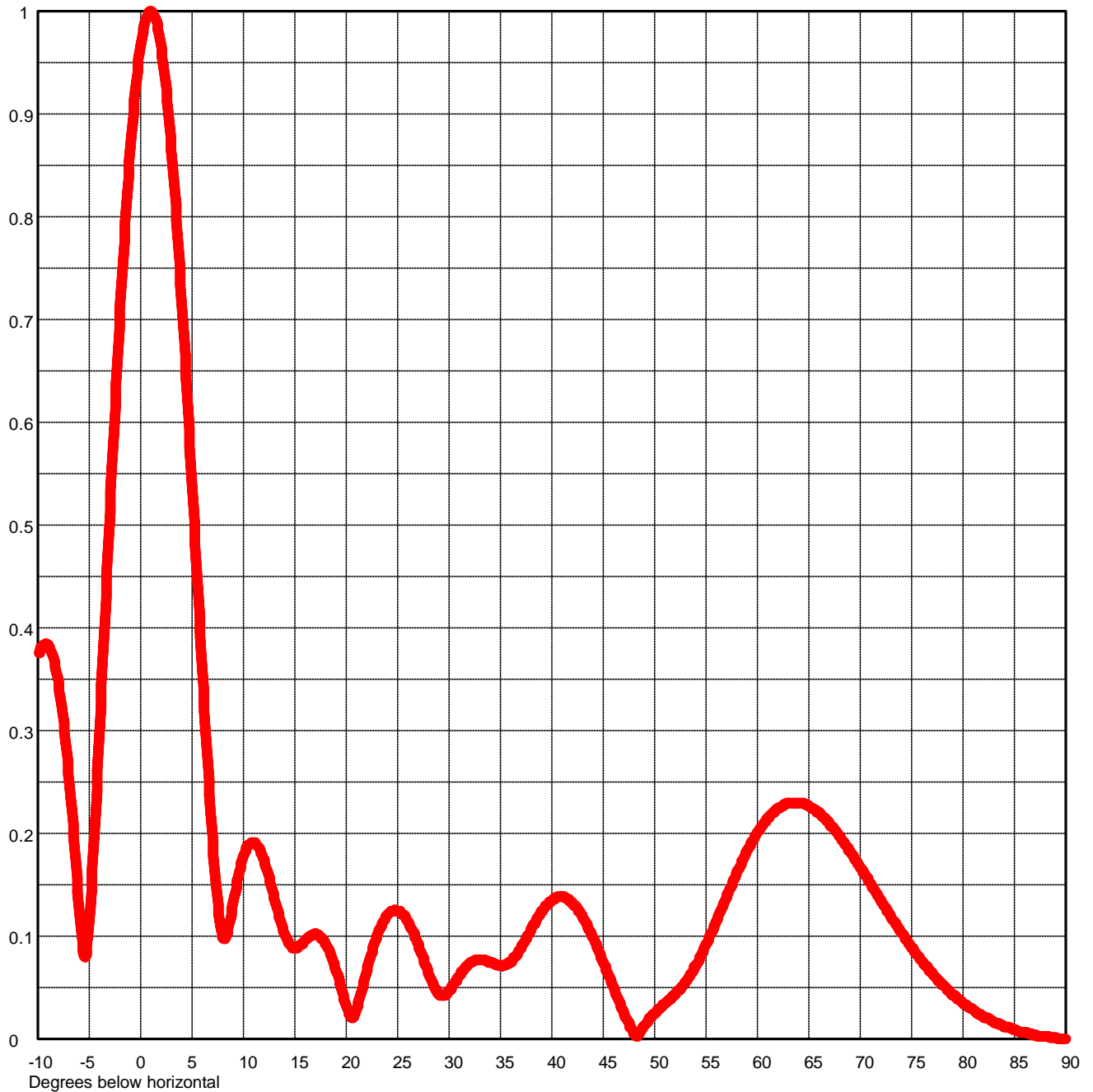
Channel 38

ELEVATION PATTERN

RMS Gain at Main Lobe
RMS Gain at Horizontal
Calculated / Measured

8 (9.03 dB)
7.5 (8.75 dB)
Calculated

Beam Tilt 1.00 Degrees
Frequency 617.00 MHz
Drawing # 08L08010-90



Remarks:



Date
Call Letters
Location
Customer
Antenna Type

28 Apr 2003
KTNW-DT
Richland, WA
WSU
TLP-16F

Channel **38**

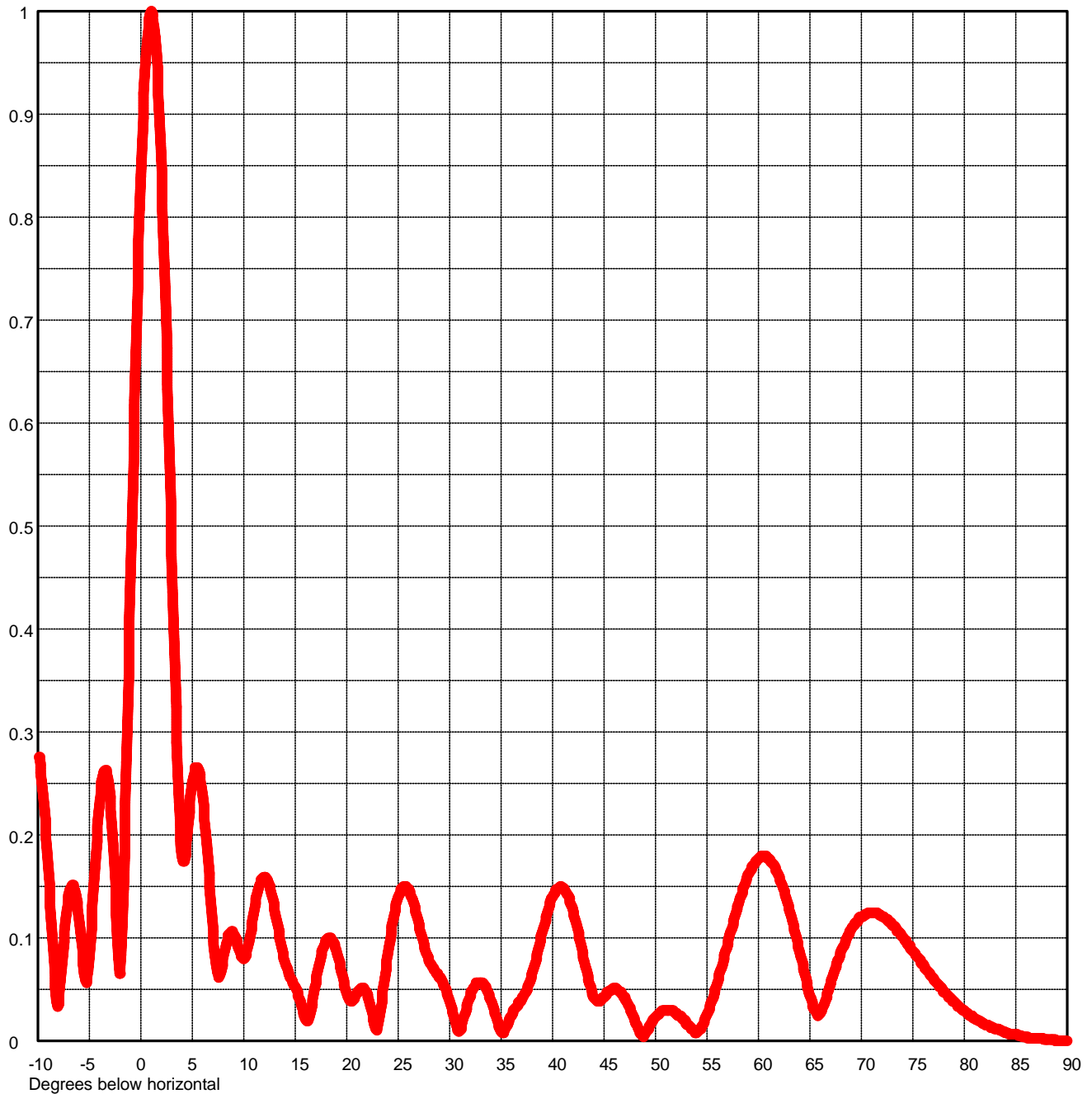
Exhibit No.

ELEVATION PATTERN

RMS Gain at Main Lobe
RMS Gain at Horizontal
Calculated / Measured

16.0 (12.04 dB)
11.3 (10.53 dB)
Calculated

Beam Tilt **1.00 Degrees**
Frequency **617.00 MHz**
Drawing # **16L160100-90**



Remarks: